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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,523	03/31/2004	George Rawa	285-714U1	6918

570 7590 08/12/2005

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PHILADELPHIA, PA 19103

EXAMINER	
COLE, ELIZABETH M	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/814,523	RAWA ET AL.	
	Examiner	Art Unit	
	Elizabeth M. Cole	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-12 and 27-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-12 and 27-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/12/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 9-12, 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelesang et al, U.S. Patent No. 4,992,323 in view of Chellis et al, U.S. Patent No. 5,126,12 and Segal, U.S. Patent No. 4,291,084. Vogelesang discloses a laminate comprising a metal layer which is bonded to a thermoplastic layer. The thermoplastic layer may comprise PEEK and may further comprise a fibrous reinforcement such as a continuous filaments. The fibers may be carbon fibers. See col. 2, lines 4-62. Vogelesang et al differs from the claimed invention because Vogelesang et al does not disclose employing woven fibrous reinforcements and because Vogelesang et al does not that the coefficient of thermal expansion of the resin layer should match that of the metal layer. With regard to the type of fibrous reinforcement employed, Chellis teaches that both woven and nonwoven fibrous reinforcements may be used to form composite materials comprising fiber reinforced resin layers and metal layers. See col. 7, lines 3-5. it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a woven or nonwoven fabric as taught by Chellis as the fibrous reinforcement in Vogelesang et al, motivated by the teaching of Chellis that such fabrics are suitable for use as the fibrous reinforcement in metal/resin laminates. With regard to the particularly claimed weave patterns, it would have been obvious to have

selected from known weave patterns such as plain weave, satin weave, twill weave, etc. to form the woven fabric reinforcement. It further would have been obvious to have selected the particular amount of fiber employed in the resin layer through the process of routine experimentation in order to provide a material having the desired strength and stability. With regard to the coefficient of thermal expansion of the two layers, Segal teaches at col. 8, lines 49-55, that when forming a metal/composite laminate that the coefficient of thermal expansion of both the metal and composite sheet should be the same. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to selected the coefficient of thermal expansion of the composite sheet of Vogelesang so that it matched the coefficient of thermal expansion of the metal layer. One of ordinary skill in the art at the time the invention was made would have been motivated to match the thermal expansion coefficient of the two layers by the teaching of Segal that this produces the best bonded material.

3. Applicant's arguments filed 5/23/05 have been fully considered but they are not persuasive.

4. Applicant argues that the claimed article differs from Vogelesang in that in the instant article the base metal is the base of the article and is not thin as in Vogelesang. However, the instant claims do not recite anything thicknesses for any of the layers of the claimed article.

5. Applicant argues that Vogelesang employs different pre-treatments than those which are used by Applicant. However, the instant claims do not preclude any of the

pre-treatments employed by Vogelesang and the instant claims do not recite any particular pre-treating steps. Therefore this argument is not persuasive.

6. Applicant argues that the instant article is used to make different articles than Vogelesang. However, the claims recite a composite having a particular structure. The Vogelesang material has the same structure except for the presence of the woven fibers and the coefficient of thermal expansion. The claims do not set forth any additional structure which would distinguish the claimed structure from the Vogelesang structure.

7. Applicant argues that Chellis is non-analogous art from Vogelesang. However, both Chellis and Vogelesang are drawn to laminated articles which comprise layers of fiber reinforced thermoplastic and layers of metal. Therefore, it is the examiner's position that Chellis and Vogelesang are drawn to the same field of endeavor. Further, it is not required that the entire structure of Chellis be incorporated into the Vogelesang invention. Rather, one of ordinary skill in the art would have been motivated to employ a woven fabric instead of a nonwoven fabric because of the teaching of Chellis that woven and nonwoven fabrics were art recognized equivalents which were known to be suitable for reinforcing thermoplastic resins when forming laminates comprising thermoplastic layers and metal layers.

8. Applicant argues that Chellis discourages the use of woven fabrics at col. 1, line 22 – col. Line 28. However, in the cited background section Chellis does not discuss problems which are associated with woven fabrics as opposed to other fabrics such as nonwovens but rather discusses issues raised regarding the necessity of enhancing the mechanical strength of laminates while still forming a material having high thermal

stability, flame retardance and uniform low dielectric constant. Chellis does not discourage the use of woven fabrics at col. 1 – col. 2 and explicitly teaches the use of woven fabrics at col. 7, lines 3-5.

9. Applicant argues that in Chellis the metal layers are thin relative to the resin layers which is different from the claimed invention. However, as set forth above, no thicknesses are set forth for the layers in the claimed invention.

10. With regard to Segal, Applicant argues that Segal does not teach press laminating. However, the instant claims are drawn to the product, not to the process of making.

11. Applicant argues that Segal is not addressed to achieving desired dielectric properties or providing metallic sheet laminates for automotive body part use and therefore cannot be combined with Vogelesang and Chellis. However, each of these references are drawn to forming laminates of metal sheets and polymeric resin. Therefore, they are drawn to the same field of endeavor.

12. Applicant's election of Group I without traverse is acknowledged.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

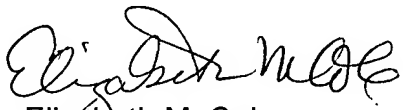
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.



Elizabeth M. Cole
Primary Examiner
Art Unit 1771

e.m.c